REMARKS

Claims 10-29 remain in this application.

In the Office action of October 29, 2009, the examiner objected to the drawings, saying that they did not show the angle of the first and second conduits being at an angle of greater than 90°, as recited in claims 28-29. But contrary to the examiner's objection, the appropriate angle is shown in figure 8, where first and second conduit portions 34 and 36 are shown to be positioned at an angle of approximately 135°.

In addition to figure 8 showing the recited angle, applicants have also amended paragraph 40 of the specification so that it more explicitly describes and recites the angle appropriately.

And also claims 28 and 29 have been amended so that they recite that it is the conduit portions which are at an angle of greater than 90°, and not the axis of the conduits. Thus the examiner should now be satisfied on this point as the specification and drawings clearly support claims 28 and 29 as they are now worded.

The examiner objected to the specification, saying that in paragraph 11 the phrase "brought about in a simple" is incomplete. We strongly suspect that the examiner missed the fact that in the preliminary amendment the word "manner" had already been added to this sentence, correcting it to read "As a result of the lateral offset, the rotation of the flow in the second conduit portion is brought about in a simple **manner**". It is believed that this change, which was made in the preliminary amendment of June 2, 2006, already corrects this objection.

The examiner rejected claims 10 and 27 as indefinite. Both of these claims have been revised in ways that overcome the examiner's rejections.

In particular, claim 10 has been revised by removing the word swirl from parentheses, and replaced by the words swirl-type before each occurrence of rotation. Thus it is clear that the rotation is a swirl about the axis of the conduit. Similar changes have been made to the specification as appropriate.

And in addition, claim 10 has been revised by the addition of the language "without a constriction of this fluid stream being produced **by the conduit in the production of the swirl-type rotation of the fluid, so that the swirl-type rotation of the fluid results in improved efficiency of the valve assembly and less wear of the valve element**". Thus it is now clear from the claim language that it is intended that the production of the swirl-type rotation of the fluid does not produce a constriction. As pointed out by the examiner, there are other parts of a valve which could produce a constriction. However claim 10 now recites that the conduit, in producing the swirl-type rotation of the fluid, does not constrict the flow of fluid.

With regard to claim 27, it is pointed out that the language of claim 27 has been revised so that it now recites "the first conduit portion extends no more than **a very small** ~~**an axially insignificantly**~~ distance past the second conduit portion". As described in paragraph 17 of the specification, this present recitation in claim 27 should now be definite, as it corresponds to paragraph 17 of the specification by describing a very small distance. As

described in paragraph 17 of the specification, this helps to increase the efficiency of the valve inlet by reducing the dynamic pressure losses.

The examiner rejected claims 10-27 as unpatentable over Burkhardt et al. in view of Hanemann, claims 10, 11 and 29 as unpatentable over Hedstrom in view of Hanemann, and claims 14 and 28 as unpatentable over Hedstrom in view of Hanemann and Burkhardt et al.

For each of these rejections the examiner has called the "openings" 43 of Hanemann conduits. Applicants take issue with the examiner's interpretation of these "openings" being conduits. They are merely openings which pass through a structure which is basically about the thickness of sheet metal, and as such it is a mistake for the examiner to call them conduits.

Webster's dictionary defines a conduit as "1. A channel for conveying water or other fluid 2. A tube or trough protecting electrical wiring." It is just not seen how a hole, and especially not a plurality of them as shown by Hanemann, can be considered to be a conduit.

The second issue applicants take with the examiner's reading is that Hanemann is not at all relevant to the claimed structure. Hanemann is from the non-analogous art of carburetors, it is not from an inlet valve assembly for a high pressure pump as recited in the claims.

In particular, the claims recite that the present invention is within an inlet valve assembly of a high pressure fuel pump. But Hanemann's structure is not part of an inlet valve. In Hanemann fuel is mixed with air within valve 22 by nozzle 19. From valve 22 this mixture flows out of and away from valve 22, upwardly towards openings 43. These

openings 43 add a second amount of air to the mixture, and do impart a swirl to the mixture within mixing chamber 3. But Hanemann's swirl is intended to completely mix the fuel and air, not to improve wear properties of the valve. And if anything, chamber 3 is an outlet, not an inlet, since in Hanemann fluid leaves the valve 22 and then passes through chamber 3. The fluid is moving in the wrong direction for chamber 3, into which holes 43 lead, to be considered to be an inlet.

And then from mixing chamber 3 the air/fuel mixture continues on to butterfly valve 40 and then on to an intake manifold. With all of the twists imparted by mixing chamber 3 in directing the air/fuel mixture past butterfly valve 40, and the turns necessary to get the air/fuel mixture to the intake manifold of the engine, plus all of the turns which will of necessity be found within the intake manifold, the air/fuel mixture will no longer have any swirl left by the time it gets to any valve. Thus, Hanemann does not teach any structure which, as recited in claim 10, is intended to be part of, and improve an inlet valve assembly.

In fact, if the entire disclosure of Hanemann is considered, the main valve is 22, and this places openings 43 at the **outlet** of the valve, not at its inlet.

Even though the above arguments point out that the claims define over the references, claim 10 nevertheless has been modified so as to include language which causes the claim to even more distinctly recite, by means of functional language, that the structure is part of and provides improvements for an **inlet** valve assembly. This language was basically copied from paragraph 9 of the specification, and it is noted that paragraphs 9, 13, 38 and 39 all support this language. It is believed that these changes should help the examiner understand that

Hanemann is not relevant to the present invention, and that Hanemann does not teach anything which would make for an obvious modification. Not to Burkhardt et al., nor to Hedstrom.

It is also pointed out that not one of the references to Hedstrom, Hanemann nor Burkhardt et al. are directed towards an inlet valve assembly of a high-pressure fuel pump. And none of these references in any way address the problems of valve efficiency, valve element wear, nor valve element stability, and especially not in a valve inlet for a high pressure fuel pump.

Moreover, if one of these references taught all of the structure recited in the claims, perhaps a rejection under 35 USC 102 would have been appropriate even though not from the same environment. But since not a single one of these references teach all of the structure which is recited in any of the claims, it is not fair under the meaning of obviousness as set forth in 35 USC 103 for the examiner to take prior art from three entirely separate art areas and then combine them in an attempt somehow to say that they disclose the invention as set forth in the claims, particularly when the invention is from a fourth art area, an inlet to a fuel pump. This art area is clearly recited in applicant's claims, and is entirely different from any of the art areas of Hanemann's carburetor, Hedstrom's intake valve for an internal combustion engine, and the sludge treatment vessel of Burkhardt et al.

As mentioned above, the structure of Burkhardt et al. is directed towards treatment of waste sludge such as produced in either the paint or dry cleaning industries. Thus the teaching of Burkhardt et al. is so far distant from an inlet for a high pressure fuel pump that

there is no way a person skilled in the art of fuel pumps would look to the structure of Burkhardt et al. as a teaching of how to improve a fuel pump.

And Hanemann is directed toward a carburetor for an internal combustion engine. Again, there is just no way that a person skilled in the art of high pressure fuel pumps, and especially their inlet valves, would look to a carburetor for improvements.

And likewise, the examiner has made a rejection of Burkhardt et al. in view of Hanemann. And just like applicants' structure, these two references are from such entirely different art areas that there is no way that a person skilled in either of these art areas would look to the other for improvements. Sludge treatment and the inlet for a combustion engine are so entirely different, and have such entirely different requirements, that clearly a device from neither of these art areas could be considered to be pertinent for teaching changes to a device from the other of these two art areas.

And even assuming that such a combination could legitimately be made, and applicants certainly do not agree that any such combination would be legitimate, this combination would still not result in the structure as recited for applicants' high pressure fuel pump inlet valve. If the structure of Burkhardt et al. were modified by the structure of Hanemann, as set forth by the examiner, the result would be an inlet to a sludge treatment vessel, not in inlet for a high pressure fuel pump.

And furthermore, the result of the above combination as set forth by the examiner, if used as an inlet, would lead to an inlet wherein the inlet pipe 23 of Burkhardt et al. would lead to an outlet chamber such as 3 of Hanemann, with small openings in the wall, perhaps

similar to Hanemann's openings 43. But these openings have a width which is considerably different from the width of the mixing chamber, so that the claimed limitation of the "...wherein the fluid conduit **has a substantially constant width** and is embodied such that a swirl-type rotation about the longitudinal axis of the fluid conduit is impressed on the fluid stream that flows toward the valve chamber, without a constriction of this fluid stream being produced by the conduit in the production of the swirl-type rotation of the fluid, ..." is not met by this combination of Burkhardt et al. in view of Hanemann.

In summary, both the prior art references to Burkhardt et al. and Hanemann are far removed from the field of the present invention of high pressure fuel pumps. And further, the technical field of Hanemann is so far removed from the technical field Burkhardt et al. that a person skilled in either of these technical fields would not look to the other for improvements. And finally, even if the structure of these two references were combined, the combination would not lead to an inlet for a high pressure fuel pump. And since neither reference has constant width conduits, the inlet which would be produced would not have a constant width as required by the claims of this application.

The examiner rejected claims 10, 11 and 29 by combining the references to Hedstrom and Hanemann. The arguments made above with respect to Burkhardt et al. in view of Hanemann applies equally well to the rejection which the examiner has made of Hedstrom in view of Hanemann.

In this rejection, one reference is directed toward an inlet valve for the cylinder of an internal combustion engine, and the other reference is for structure within a carburetor.

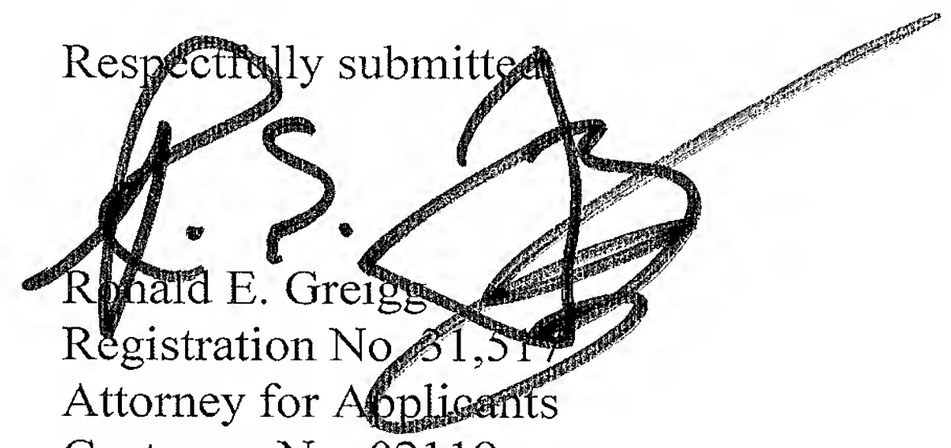
While in a very broad sense perhaps Hanemann could be considered to be a valve, very clearly Hanemann does not have structure which could in any way hold the pressure required for an inlet to the cylinder of an internal combustion engine. There simply is no way that a person skilled in the inlet valves of in internal combustion engine would look to a carburetor for improvements to the inlet valve. In a carburetor the air and fuel flow through the carburetor and are mixed. There is no back pressure, and thus there is no need of structure which closes and prevents back flow of the mixture. Thus it simply would not make sense to look to a carburetor to improve an inlet valve which must withstand the pressures generated by the explosion of a fuel air mixture such as occurs within the cylinder of an internal combustion engine, which is what Hedstrom's valve must do.

And furthermore, as can be seen upon inspection of figure 1 of Hedstrom, conduit part "g" and conduit part "f" are of entirely different diameters. Thus Hedstrom does not teach the recited improvement of the fluid conduit having a **substantially constant width** and being embodied such that a swirl-type rotation about the longitudinal axis of the fluid conduit is impressed on the fluid stream that flows toward the valve chamber. And even if combined with Hanemann, there is still no teaching of such a constant width of the conduit portions.

And once again, such combination does not result in anything which could possibly be used as an inlet to a high pressure fuel pump, as is recited in applicants' claims.

For all of the above reasons, whether taken singly or in combination with each other, entry of this amendment and allowance of the claims are courteously solicited.

Respectfully submitted,



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